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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,457	07/30/2001	Michael Luther	PW 053403 272577	3563

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EXAMINER

BACKER, FIRMIN

ART UNIT	PAPER NUMBER
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3621

DATE MAILED: 06/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/919,457	Applicant(s) LUTHER ET AL.	
	Examiner Firmin Backer	Art Unit 3621	<i>ML</i>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

This is in response to an amendment file on May 18th, 2004 for letter for patent filed on July 30th, 2001 in which claims 1-39 were presented for examination. In the amendment, claims 1, 2, 17, 25 and 32 have been amended, claims 39 have been canceled, and no claim has been added. Claims 1-38 remain pending in the letter.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 8-12, 15, 16, 25-29, 32-36 and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Kawata et al (U.S. PG Pub No 2002/0032777).
3. As per claims 8, Kawata et al teach a data transmission load management system (*load balancing system, fig 1*) comprising a plurality of data processors (*client 105, server 107, 108, 109*) and a load manager (*load balancer, 100*) operative to distribute incoming data (*service request packet*) to a selected one of the plurality of data processors (*server, 107, 108, 109*) in accordance with a current data transmission load capacity (*load status*) at each of the plurality of

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data processors and further in accordance with a network transaction (*load sharing*) with which the data packet is associated (*see fig 1, paragraphs 0005-0010, 0037-0042*).

4. As per claims 9, Kawata et al teach a system wherein the load manager is provided with a network address representative of the plurality of data processors (*see fig 1, paragraphs 0005-0010, 0037-0042*).

5. As per claims 10, Kawata et al teach a system wherein the load manager is a computer server (*see fig 1, paragraphs 0005-0010, 0037-0042*).

6. As per claims 11, Kawata et al teach a system wherein each of the plurality of data processors is an independent computer server (*see fig 1, paragraphs 0005-0010, 0037-0042*).

7. As per claims 12, Kawata et al teach a system wherein the load manager comprises a hash function providing output associated with the incoming data in accordance with the network transaction (*see fig 1, paragraphs 0005-0010, 0037-0042*).

8. As per claims 15, Kawata et al teach a system wherein the load manager receives load capacity signals from each of the plurality of data processors (*see fig 1, paragraphs 0005-0010, 0037-0042*).

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9. As per claims 16, Kawata et al teach a system wherein the load manager distributes the incoming data responsive to the load capacity signals and the output (*see fig 1, paragraphs 0005-0010, 0037-0042*).

10. As per claims 25, Kawata et al teach a data transmission load management system (*load balancing system, fig 1*) for use in a packet-switched communications network (*network, 106*) comprising: a plurality of data processors (*client 105, server 107, 108, 109*) and a load manager (*load balancer, 100*) operative to distribute an incoming data packet (*service request packet*) to a selected one of the plurality of data processors (*server, 107, 108, 109*) the load manager comprising: load determining means (*server load estimation processing, 101*) for determining (*estimating*) current data transmission load capacity (*load status*) at each of the plurality of data processors transaction identifying means (*server selection processing*) for identifying a network transaction (*load sharing*) with which the data packet is associated and data distribution means for distributing an incoming data packet to a selected one of the plurality of data processors responsive to the load determining means and the transaction identification means (*see fig 1, paragraphs 0005-0010, 0037-0042*).

11. As per claims 26, Kawata et al teach a system wherein the load manager is provided with a network address representative of the plurality of data processors (*see fig 1, paragraphs 0005-0010, 0037-0042*).

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12. As per claims 27, Kawata et al teach a system wherein the load determining means is responsive to load capacity signals from each of the plurality of data processors (*see fig 1, paragraphs 0005-0010, 0037-0042*).

13. As per claims 28, Kawata et al teach a system wherein the transaction identifying means is responsive to a transaction identification value associated with the data packet (*see fig 1, paragraphs 0005-0010, 0037-0042*).

14. As per claims 29, Kawata et al teach a system wherein the load manager distributes every data packet having a particular transaction identification value to a selected one of the plurality of data processors (*see fig 1, paragraphs 0005-0010, 0037-0042*).

15. As per claims 32, Kawata et al teach a packet-switched data communication network (*network, 106*) comprising: a plurality of data processors (*client 105, server 107, 108, 109*); each of the plurality of data processors having processing capacity, executing data transmission processing tasks (*load balancing, 100*), and forwarding data packets (*service request packet*) to one or more intended recipients (*server, 107, 108, 109*); and a load manager (*load balancer, 100*); the load manager operative to identify a network transaction (*load sharing*) with which transmitted data packets are associated, to receive signals from each of the plurality of data processors related to the processing capacity (*load status*), and to distribute the data packets to a selected one of the plurality of data processors in accordance with the processing capacity and

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further in accordance with the network transaction (*see fig 1, paragraphs 0005-0010, 0037-0042*).

16. As per claims 33, Kawata et al teach a packet-switched data communication network wherein the load manager is provided with a network address representative of the plurality of data processors (*see fig 1, paragraphs 0005-0010, 0037-0042*).

17. As per claims 34, Kawata et al teach a packet-switched data communication network wherein the load manager is a computer server (*see fig 1, paragraphs 0005-0010, 0037-0042*).

18. As per claims 35, Kawata et al teach a packet-switched data communication network wherein each of the plurality of data processors is an independent computer server (*see fig 1, paragraphs 0005-0010, 0037-0042*).

19. As per claims 36, Kawata et al teach a packet-switched data communication network wherein the load manager comprises a hash function providing output for each of the transmitted data packets in accordance with the network transaction (*see fig 1, paragraphs 0005-0010, 0037-0042*).

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 1-7, 13, 14, 17-24, 30, 31, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawata et al (U.S. PG Pub No. 2002/0032777) in view of Bhat et al (PG Pub. 2003/0037093).

22. As per claims 1 and 17, Kawata et al teach a method of managing a data transmission load (*load balancing system, fig 1*) in a communication network (*network, 106*) the method comprising: receiving transmitted data (*service request packet*) at a data transmission load manager (*load balancer, 100*); determining a current data transmission load capacity (*load status*) at each of a plurality of data communication processors (*server, 107, 108, 109*); identifying a network transaction (*service request packet*) to which the transmitted data is related; and distributing the transmitted data to a selected one of the plurality of data communication processors in accordance with the determining and the executing (*see fig 1, paragraphs 0005-0010, 0037-0042*). Kawata et al fail to teach an inventive concept of executing a hash function in accordance with the identifying. However, Bhat et al teach an inventive concept of executing a hash function in accordance with the identifying (*see fig 2, paragraphs 0022, 0023, 0028, 0029*). Therefore, it would have been obvious to one of ordinary skill in the art

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at the time the invention was made to modify Kawata et al's inventive concept to include Bhat et al's executing a hash function in accordance with the identifying because this would have ensure that the selection of the processors balancing load is done fairly and according to load capacity thereby enhance the flexibility of the system.

23. As per claims 2 and 18, Kawata et al teach a method wherein the receiving includes providing the data transmission load manager with a network address representative of the plurality of data communication processors (*see fig 1, paragraphs 0005-0010, 0037-0042*).

24. As per claims 3 and 19, Kawata et al teach a method wherein the identifying includes examining the transmitted data to ascertain an intended recipient (*see fig 1, paragraphs 0005-0010, 0037-0042*).

25. As per claims 4 and 20, Kawata et al teach a method wherein the examining includes determining a transaction identification value associated with the transmitted data (*see fig 1, paragraphs 0005-0010, 0037-0042*).

26. As per claims 5, 13, 14, 22, 30, 31, 37 and 38, Kawata et al fail to teach providing results of the executing to a modulo function and computing a modulo value representative of one of the plurality of data communication processors; wherein the distributing is further in accordance with the computing. However, Bhat et al teach a method further comprising: providing results of the executing to a modulo function and computing a modulo value representative of one of the

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plurality of data communication processors; wherein the distributing is further in accordance with the computing (*see paragraphs 0037, 0043, 0057*). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawata et al's inventive concept to include Bhat et al's inventive of providing results of the executing to a modulo function and computing a modulo value representative of one of the plurality of data communication processors; wherein the distributing is further in accordance with the computing concept because this would have ensure that the selection of the processors balancing load is done fairly and according to load capacity thereby enhance the flexibility of the system.

27. As per claims 6 and 21, Kawata et al teach a method wherein the determining includes accepting, at the data transmission load manager, one or more load status signals from each of the plurality of data communication processors (*see fig 1, paragraphs 0005-0010, 0037-0042*).

28. As per claims 7 and 23, Kawata et al teach a method wherein the distributing is responsive to the transaction identification value and the one or more load status signals (*see fig 1, paragraphs 0005-0010, 0037-0042*).

29. As per claim 24, Kawata et al teach a computer readable medium further encoded with data and instructions, further causing an apparatus to analyze each the load status signal to determine relative residual processing capacity for each of the plurality of data communication processors (*see fig 1, paragraphs 0005-0010, 0037-0042*).

Response to Arguments

Applicant's arguments filed May 18th, 2004 have been fully considered but they are not persuasive. Applicant's argued that the prior art (Bhat et al) fail to teach an inventive concept where wherein the every data packet associated with a particular network transaction is distributed the one of the a selected plurality of data processors. Examiner respectfully disagrees with applicant's characterization of the prior art. Bhat et al teach multiprocessor system to distribute received request among a plurality of processors to allow efficient servicing of the requests. If some processors are heavily loaded with requests while other processors are lightly loaded or remain unused for periods of time, the request is assigned to one of the first resource and second resource having a lower associated load value for servicing the request. Furthermore, Bhat et al's inventive concept includes a system for selecting a resource, among a plurality of resources, for servicing a request. The system includes one or more interfaces for receiving a request and for forwarding the request to a selected resource and control logic. The control logic is configured to randomly select a first resource among the plurality of resources in accordance with a predefined first random selection function, the first resource having an associated first load value, compare the first load value to a predetermined threshold value to determine whether the first load value exceeds the predetermined threshold value, and assign the request to the first resource for servicing the request when the first load value does not exceed the predetermined threshold value. The control logic, in some embodiments, is implemented as one or more processing units for executing stored procedures, and a set of request allocation procedures stored in memory within the system (*see summary of the invention*).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

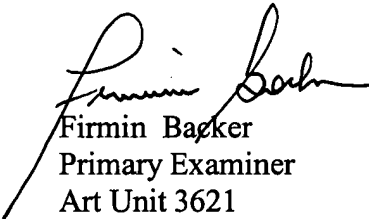
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Firmin Backer whose telephone number is (703) 305-0624. The examiner can normally be reached on Mon-Thu 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Trammell can be reached on (703) 305-9768. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Firmin Backer
Primary Examiner
Art Unit 3621

June 9, 2004